ACC.11
60th Annual Scientific Session & Expo

E240
JACC April 5, 2011
Volume 57, Issue 17

CARDIAC FUNCTION AND HEART FAILURE

HIGH RENAL MORBIDITY WITH SLOW CONTINUOUS ULTRAFILTRATION IN ADVANCED DECOMPENSATED HEART FAILURE DESPITE HEMODYNAMIC IMPROVEMENT

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 10:00 a.m.-11:15 a.m.

Session Title: Emerging Nonpharmacological Treatment for Heart Failure
Abstract Category: 24. Myocardial Function/Heart Failure–Clinical Nonpharmacological Treatment
Session-Poster Board Number: 1019-10

Authors: *Maria M. Patarroyo, Edgar Wehbe, Sevag Demirjian, Mazen Hanna, Jonathan Taliercio, W.H.Wilson Tang, Cleveland Clinic Foundation, Cleveland, OH*

Background: Several studies have demonstrated the clinical utility of early slow continuous ultrafiltration (SCUF) in patients with acute decompensated heart failure (ADHF) to improve fluid overload, hemodynamics, and readmissions. However, there is limited data supporting the use of SCUF in patients with advance ADHF refractory to standard medical therapy.

Methods: We reviewed clinical data of all adult patients admitted from 2004 to 2009 to the Heart Failure Intensive Care Unit with ADHF for hemodynamically-guided therapy and SCUF

Results: From our cohort of 61 patients with average age of 59±11 years, 77% were male; 65% had ischemic cardiomyopathy, 21% baseline ≥ Stage III chronic kidney disease, and mean LV ejection fraction of 25±5%. The mean creatinine on admission was 1.9±0.8mg/dL and 2.2±0.9mg/dL at SCUF initiation, with average start time of SCUF of 8.9 days after admission. After 48 hours of SCUF, there were significant improvement in hemodynamic variables (mean arterial pressure 75±10 vs 71±10mmHg, p=0.01, mean pulmonary arterial pressure 40±12vs33±8mmHg, p=0.002, central venous pressure 20±6 vs 16±8 mmHg, p=0.007, mean pulmonary wedge pressure 27±8 vs 19±7 mmHg, p=0.02, Fick Cardiac index 2.2±0.5 vs 2.6±0.5 L/min/m², p=0.0005) and weight loss (104±23 vs 99±23kg, p=0.0001).However, there were not significant improvement in serum creatinine (2.2±0.9 vs 2.4±1, p=0.12) and BUN (60±30vs 60±28, p=0.97). Fifty-six patients (92%) were switched to continuous hemodialysis, and 7 were dialysis dependent at hospital discharge. Hospital mortality was 31% (19/61), and 6 patients were discharged to hospice.

Conclusion: In our single center experience, the use of SCUF in patients with advanced ADHF refractory to standard medical therapy was associated with high incidence of renal failure requiring temporary renal replacement therapy, and in-hospital mortality despite significant improvement in hemodynamics. These observations challenge the concept of altering the natural history of advanced ADHF solely with hemodynamic interventions. Further studies are needed to clarify the clinical utility of SCUF in this population